FEBRUARY 1953

FIREMEN

FIFTY-SEVENTH YEAR • NATIONAL FIRE PROTECTION ASSOCIATION

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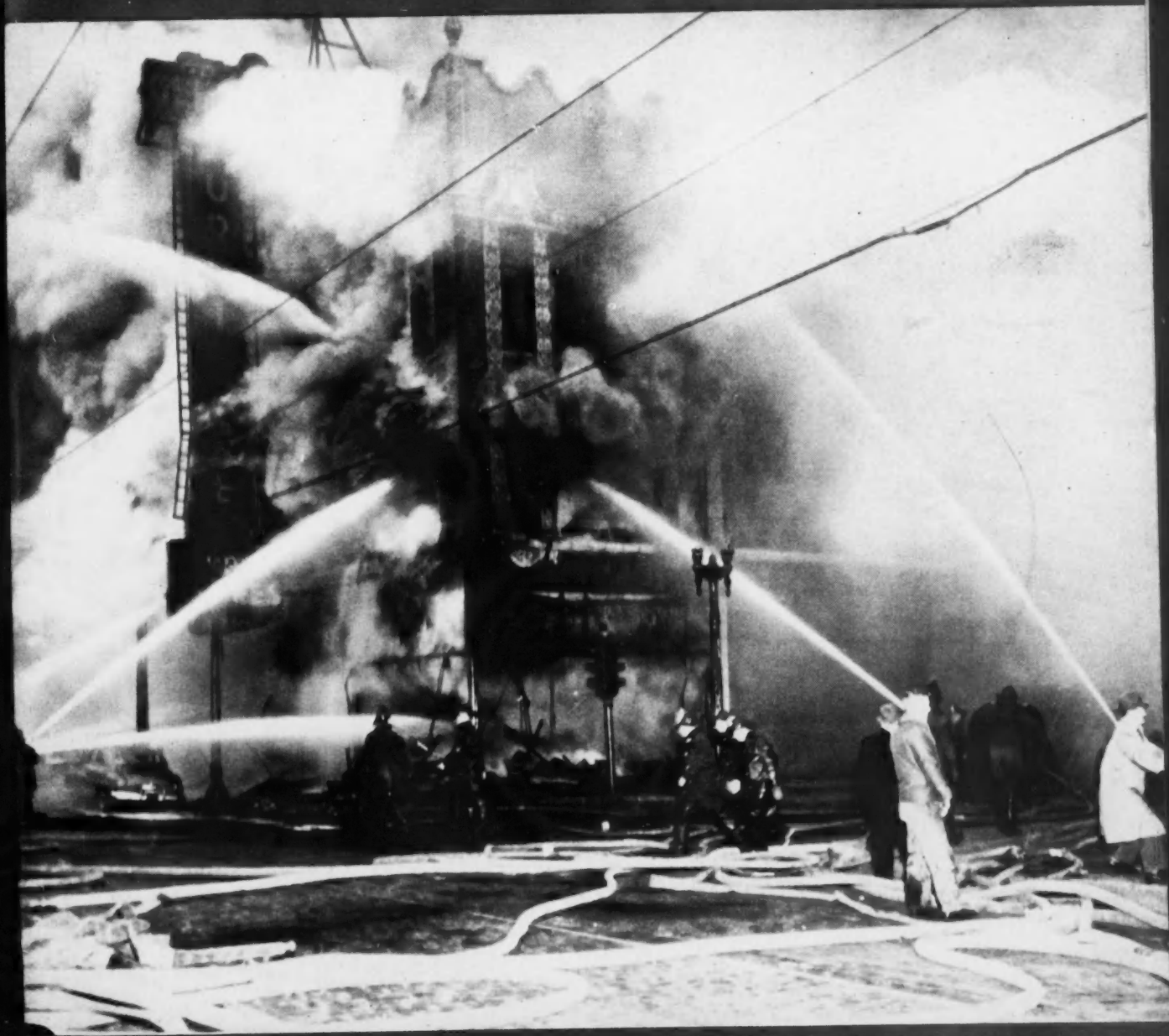

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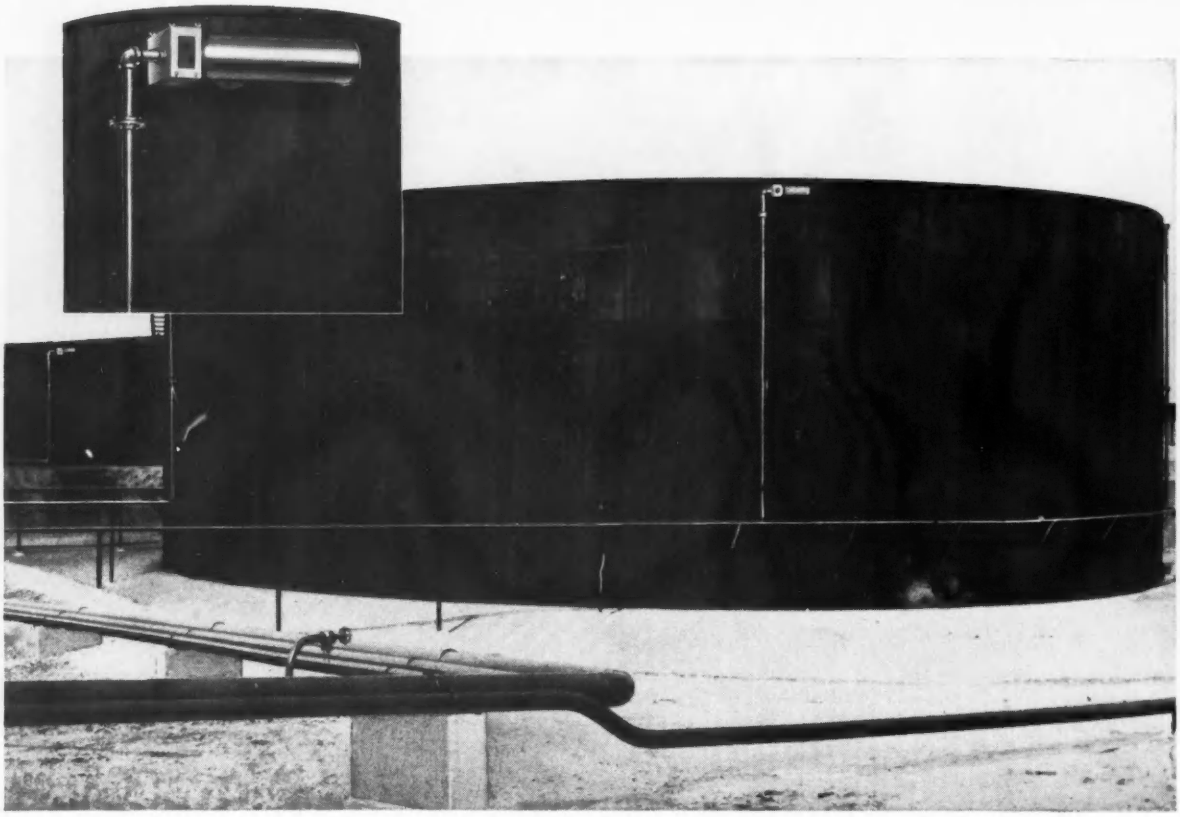

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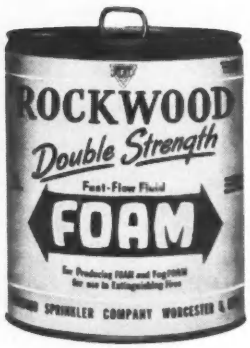

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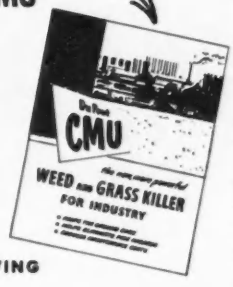

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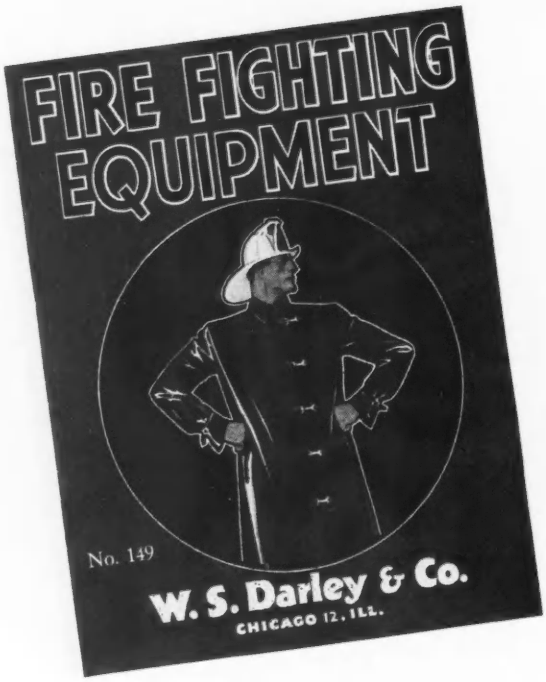

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Volume 20 — Number 2

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Published monthly for the fire service members of the
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It's Not News!

Apparently it's not news when the top command of a fire department and an entire battalion of fire fighters get blown up and terribly injured in an explosion and fire. At least that was the apparent view of most newspapers outside of Washington, D. C., when the same group of fire officers and fire fighters who only four hours before had conducted the rescue operations following the spectacular wreck of a runaway passenger train in Washington's Union Station on January 15, were caught in a terrific explosion in the basement of a tire and battery store just a few blocks away. The explosion in the reinforced concrete building was so violent that only Superintendent of Machinery William Boswell (member NFPA) and three pumper operators were able to pick themselves up and summon aid via a third alarm.

Chief of Department Millard H. Sutton, Acting Deputy Chief Carl P. Poole, and Battalion Chief A. M. Grunwell (member NFPA Committee on Firemen's Training) were all horribly injured and are in critical condition. Members of Engine Companies 8, 10, 18, Truck Co. 7, and Rescue Companies 1 and 2 were incapacitated. City Fire Marshal Raymond C. Roberts (member NFPA) and two members of his staff were injured. With both Rescue Companies knocked out mutual aid came into play with rescue companies and ambulances responding from nearby Maryland and Virginia fire departments plus ambulances available from local hospitals which were busy caring for patients brought in from the train wreck.

While the exact details of the explosion which wrecked the tire and battery store are not available, it is known that fire fighters believed that they had the one alarm "working fire" in the basement under control after a half hour battle, and were advancing in the basement when the blast occurred, possibly due to gas. The "top brass" which had been at the railroad wreck had responded when Chief Grunwell reported an "all hands" and requested rescue companies to assist in fighting the cellar fire.

While investigations are under way, including one by members of the NFPA Committee on Explosion Venting, it appears that the explosion was not a "back draft." Rather the blast appears to have had a bomb-like effect caused by the confinement of blast waves or pressure by the concrete structure. One report mentions a broken gas pipe but does not indicate whether this might have been broken before or during the blast.

This explosion points to several important lessons for fire fighters: (1) There can be great danger from fires in basements of fire resistive structures where smoke and explosion venting is limited. (2) The period of danger may come rather late in the fire after atmospheric inversion takes place. (Heat pressure inside may at first limit the inrush of oxygen). (3) Great care must be taken to protect fire department personnel in such cases. Officers and members should avoid concentrating in one spot particularly in the path where an entrance is being made. (4) Attempt should be made to have a top command post in a reasonably secure area and where possible there should be a "tactical reserve" of one or more fire companies standing by and not actively engaged in fire fighting. In other words, all available units on the fireground should not be committed to places of danger. (5) Automatic sprinkler protection should be required by law in all hazardous basement areas regardless of type of construction. (6) Fires in fire resistive buildings often are among the most difficult to ventilate safely.

Cover Picture

The limitations of even heavy calibre outside streams to secure adequate penetration of large fire areas is pretty well evidenced by the photo on this month's cover showing a recent furniture store fire in Chicago. Six occupants lost their lives in the rapid spread of flames in this unsprinklered, 3-story, brick building which required the attention of 27 engine companies, 3 squads, 5 ladder companies, a water tower and a high pressure company. A report from the Chicago Fire Department stated that it used 14,800 feet of 2½-in. hose and 13,250 feet of 3-in. hose to apply the 29 streams from hand lines and turret guns to extinguish this $200,000 blaze. (*Wide World Photo.*)

Winners of the 1952 Fire Prevention Week Contest

Grand Award for United States

Memphis, Tennessee

Chief John C. Klinck, Memphis, Tennessee, Fire Department

Chief "Bev." R. Wade, Kentville, Nova Scotia, Fire Department

Grand Award for Canada

Kentville, Nova Scotia

MEMPHIS, Tennessee, and Kentville, Nova Scotia, were declared grand award winners in the international 1952 Fire Prevention Week Contest sponsored by the Fire Prevention and Clean-Up Campaign Committee of the National Fire Protection Association. Judged next in achievement among U. S. cities were Atlantic, Iowa, and New York City, New York (tied), Louisville, Kentucky; Chicago, Illinois, and Providence, Rhode Island. Canadian cities following Kentville were Ottawa, Ontario; Calgary, Alberta, and Hull, Quebec, finishing in that order. Kitchener, Ontario, and Arvida, Quebec, tied for fifth place in the Dominion.

The International Board of Judges was composed of: Robert C. Byrus, Director of Fire Training, University of Maryland, College Park, Md.; A. Leslie Ham, Manager, Dominion Board of Insurance Underwriters, Montreal, Que.; Chief George R. McAlpine, Okalhoma City, Okla., President, International Association of Fire Chiefs; and H. W. Miller, United States Manager of the Commercial Union Assurance Company and Chairman of the Fire Prevention and Engineering Standards Committee of the National Board of Fire Underwriters, New York City, New York.

A TOTAL of 1,566 entries were received in the Contest from cities in the United States, Alaska, Hawaii, and Canada, from U. S. and Canadian industry, and from U. S. and Canadian Armed Forces.

In the Industrial Division, honors went to the Ford Motor Company, Rouge Area, Dearborn, Michigan, which was awarded first place, with the Argonne National Laboratory, Chicago, Illinois, second, and the Waynesboro, Virginia, Works of E. I. du Pont de Nemours & Co., Inc., third.

Winners in the Government Division were: U. S. Army: 1st, Anniston Ordnance Depot, Anniston, Alabama; 2nd, Fort Lewis, Washington; 3rd, Fort Bragg, North Carolina. U. S. Air Force: 1st, Geiger Air Force Base, Spokane, Washington; 2nd, Narsarssauk Air Base, Greenland; 3rd, Tinker Air Force Base, Oklahoma City, Oklahoma; U. S. Navy: 1st, Naval Supply Center, Oakland, California; 2nd, Naval Ordnance Laboratory, White Oak, Maryland; 3rd, Naval Air Station, Moffett Field, California.

THE NFPA sponsors this Contest each year to stimulate competition and encourage the use of Fire Prevention Week as a "springboard" for year-round fire prevention programs. The Contest is open to all municipalities, industrial organizations and armed force units who conduct activities promoting Fire Prevention Week.

Entry blanks are available from the NFPA Executive Office when the Contest is announced each year. Any municipality desiring to participate in the Contest merely reports its Fire Prevention Week activities in accordance with the simple directions on the entry blank.

A glance at the winning entries shown on these pages will give some indication of the care and thoroughness of preparation that many municipalities use in submitting their entries. Competition for the coveted awards is intense. However, neatness of presentation is not the basis for judging. The important qualification of any entry is in the thoroughness and scope of its Fire Prevention Week activities.

The method of reporting such information varies with each municipality. Memphis, Tennessee, the U. S. Grand Award winner this year, submitted a number of bound volumes, each dedicated to a particular phase of activities. Kentville, Nova

(Above) Three top winners in Canadian cities. Kentville, a "Class D" city, won the Grand Award, followed by two "Class A" cities, Ottawa, Ontario, (*left*) and Calgary, Alberta (*right*). Picture at right shows winning U. S. entries. Memphis, Tennessee, Grand Award winner, is at bottom center. On table are entries from Atlantic, Iowa; New York City, New York; Louisville, Kentucky; Chicago, Illinois, and Providence, Rhode Island.

Scotia, Grand Award winner in Canada, used only one large volume for its presentation.

Generally the reports contained pictures, charts, and other illustrations, newspaper clippings, and documentary evidence covering in detail the extent of the entry's activities during Fire Prevention Week. Inspection programs, radio and newspaper presentations, use of Fire Prevention Week posters and other published materials, and public relations programs are all subject to evaluation by the Board of Judges.

EVERY municipality, regardless of size, has an opportunity to gain international recognition by winning the Contest. Entries are judged in various classes according to population.

In the 1952 Fire Prevention Week Contest class winners in the United States were as follows:

CLASS I (Pop. 500,000 or more): 1st, New York City, N. Y.; 2nd, Chicago, Ill.; 3rd, Houston, Tex.; Honorable Mentions, Cincinnati, Ohio and Philadelphia, Pa.

CLASS II (Pop. 250,000 to 500,000): 1st, Memphis, Tenn.; 2nd, Louisville, Ky.; 3rd, Indianapolis, Ind.; Honorable Mentions, Jersey City, N. J.; San Diego, Calif., and Atlanta, Ga.

CLASS III (Pop. 100,000 to 250,000): 1st, Providence, R. I.; 2nd, Hartford, Conn.; 3rd, Norfolk, Va.; Honorable Mentions, Grand Rapids, Mich., Evansville, Ind., and Wichita, Kans.

CLASS IV (Pop. 50,000 to 100,000): 1st, Anderson, Ind.; 2nd, Portland, Me.; 3rd, Columbia, S. C.; Honorable Mentions, Alameda, Calif., Bethlehem, Pa., Terre Haute, Ind.

CLASS V (Pop. 20,000 to 50,000): 1st, Richland, Wash.; 2nd, Oak Ridge, Tenn.; 3rd, Tuscaloosa, Ala.; Honorable Mentions, Salisbury, N. C., Billings, Mont., Colorado Springs, Colo., and Bloomington, Ind.

CLASS VI (Pop. under 20,000): 1st, Atlantic, Ia.; 2nd (tied), Hopkinsville, Ky., and Stevens Point, Wis.; 3rd, Martinsville, Va.; Honorable Mentions, Fort Collins, Colo., Escalon, Calif., and Palos Heights, Ill.

In Canada the class winners were as follows:

CLASS A (Pop. 100,000 and over): 1st, Ottawa, Ont.; 2nd, Calgary, Alta.; 3rd, Vancouver, B. C.; Honorable Mentions, Hamilton, Ont., Edmonton, Alta., and Montreal, Que.

CLASS B (Pop. 25,000 to 100,000): 1st, Hull, Que.; 2nd, Kitchener, Ont.; 3rd, St. Catherines, Ont.; Honorable Mentions, Brantford, Ont., and Moncton, N. B.

CLASS C (Pop. 10,000 to 25,000): 1st, Arvida, Que.; 2nd, Galt, Ont.; 3rd, Trail, B. C.; Honorable Mentions, Fredericton, N. B., and Brandon, Man.

CLASS D (Pop. 5,000 to 10,000): 1st, Kentville, N. S.; 2nd, St. Joseph d'Alma, Que.; 3rd, Malartic, Que.; Honorable Mentions, Noranda, Que., and Iberville, Que.

CLASS E (Pop. 2,500 to 5,000): 1st, Schumacher, Ont.; 2nd, Port Alfred, Que.; 3rd, Pointe Gatineau, Que.; Honorable Mentions, Gilbert Plains, Man., and Liverpool, N. S.

CLASS F (Pop. under 2,500): 1st, St. Paul, Alta.; 2nd, Louisbourg, N. S.; 3rd, District of Tadanac, B. C.; Honorable Mentions, Vegreville, Alta., and Vermilion, Alta.

The Ford Motor Company, Rouge Area, Dearborn, Michigan, headed the Industrial Division entries in the photo at left. Also shown are entries from the Argonne National Laboratory, Chicago, Illinois, and the Waynesboro, Virginia, Works of E. I. duPont de Nemours & Co., Inc. (*At right*) Winning entries in the Government Division included (*left to right*): Geiger Air Force Base, Spokane, Washington; Naval Supply Center, Oakland, California; and Anniston Ordnance Center, Anniston, Alabama.

South Portland fire fighters show good teamwork as they extinguish a 2,000-gallon gasoline spill fire with water fog.

South Portland, Maine, Fire Fighters Get "Variety" in Training

FACED with the problems of protecting a community of 23,760 population and one of the largest oil storage and shipping terminals on the Eastern Seaboard, the fire department of South Portland, Maine, headed by Chief Horace S. Jose (NFPA member), conducts a vigorous and varied training program for fire fighters. South Portland, while adjacent to the City of Portland, is a separate city and has its own fire department of 25 paid and 120 volunteer members.

Conscious of the fire hazards that may accompany oil storage and handling South Portland fire fighters have active interest in developing fire fighting "know how" for flammable liquid fires. Equal enthusiasm is shown in the training of teams to handle aircraft crash fires, since the department responds to fire calls for nearby Portland Airport.

Members of the department demonstrated their techniques recently as shown in the pictures above. Representatives from the Scarboro and Portland Fire Departments also participated. A dump area was chosen for the training session and 2,000 gallons of gasoline were spilled on the ground over an area of about 30 feet in diameter. In the center of the spill stood an oil drum from which the bung had been removed. The gasoline was ignited with flares and fire fighters had the problem of opening a path through the flames

Chief Horace S. Jose,
South Portland Fire Department.

to the oil drum (to simulate rescue procedure at an aircraft fire) so that the bung could be inserted then to complete extinguishment of fire.

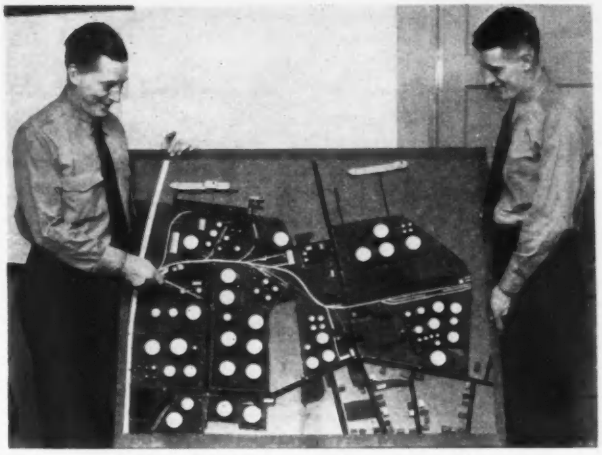
Two six-man crews operated 2½-in. lines with 500 gpm Rockwood fog nozzles while two 1½-in. lines with fog nozzles were used as flanking protection. The oil drum was reached in approximately one minute after which extinguishment of the fire was accomplished more leisurely to allow fire fighters to gain additional experience in maneuvering as teams and in properly "sweeping" with the fog nozzles. The entire operation was conducted smoothly and fire fighters exhibited both confidence and good techniques in advancing lines and making the most of the water fog. This was the tenth such training fire that members of the South Portland Fire Department had fought in recent months. In addition they have had lectures, training films and other training sessions on these fire fighting procedures.

U. S. ARMY Reserve Officer Major C. R. Huntoon was in charge of the fire fighting demonstration. Major Huntoon, several years ago, volunteered his services to assist in training the fire fighters in aircraft crash fire fighting and rescue techniques. During this time the need for a suitable head covering and face shield was apparent so he and other members of the department proceeded to design one suitable to their needs.

The first model was made of flame resistant treated duck cloth in the shape of a cylinder with a flat top. A hole was in the top for the helmet crown, a section of plexiglass was curved and riveted for the face piece and openings were made at the bottom of the cloth so that it would fit over a fire fighter's shoulders. While this covering was fairly satisfactory improvements were necessary. The face piece was enlarged, a plexiglass visor added and glass cloth and a cotton flannel lining installed. The latest model devised with these improvements allows both visibility and ease of wearing and removal.

IN ADDITION to developing their fire fighting techniques through such practice South Portland fire fighters make good use of fire training films. Chief Jose has acquired a library of fifteen motion picture films including some which have been taken by a member of the

(Left) Here's the American-LaFrance foam unit that was recently placed in service. It has a 750 gpm pump, a 450-gallon water tank, and carries 5 tons of foam powder and 100 gallons of liquid foam. The Portland Pipe Line Company purchased the chassis then equipped it according to the specifications of Chief Jose. *(Photo by Guy Gannett Publishing Company.)*



Chief Fire Inspector Charles D. Heseltine and Fire Fighter Norman W. Cribby show one of the scale models of "Kerosene Corner," a name applied to one of the oil terminal areas. (*Photo by Guy Gannett Publishing Company.*)

department at some of the major fires to which South Portland responded through recent years. These films are used for the periodic training sessions and also for the department's fire prevention and public relations programs. While the films are available on loan for any near-by fire department or civic organization, a South Portland fire fighter always accompanies both film and projector to wherever they are desired. This not only assures proper handling and return of the films but also allows opportunity for "selling" the activities of the South Portland Fire Department.

MILLIONS of gallons of oil are transported to and from the oil terminals in South Portland. Fire department members not only encounter fire protection problems but also conduct inspections to minimize pollution of the waters by oil. Chief Fire Inspector Charles D. Heseltine reports that a fire department member boards every ship that loads or discharges oil in South Portland. The inspecting fire department member reports on a special form entitled "Inspection Report Petroleum Pollution Prevention" and details the procedures followed during loading or unloading of an oil cargo.

So that every fire fighter will be familiar with the layout and location of facilities in the oil terminal area several wooden scale models of the terminals have been prepared. (See illustration on this page.) These models show the storage tanks, fire protection facilities available, hydrants, and other important details. Distinctive color markings enable a fire fighter to obtain important information of the district at a glance. Three such models have been prepared covering the oil terminal and another shows the mercantile section of South Portland.

In appreciation of the services rendered by the department the Portland Pipe Line Company donated the sum of $25,000 for the purchase of a foam unit. (See illustration.) The truck was built to the specifications requested by Chief Jose and was recently placed in service as Engine 10.

In addition the department has two 1000 gpm Ahrens Fox pumpers, a Mack 750 gpm pumper, a Seagrave 750 gpm pumper, four 500 gpm pumpers, a 500-gallon tank truck, a 65-ft. ladder truck and a city service truck.

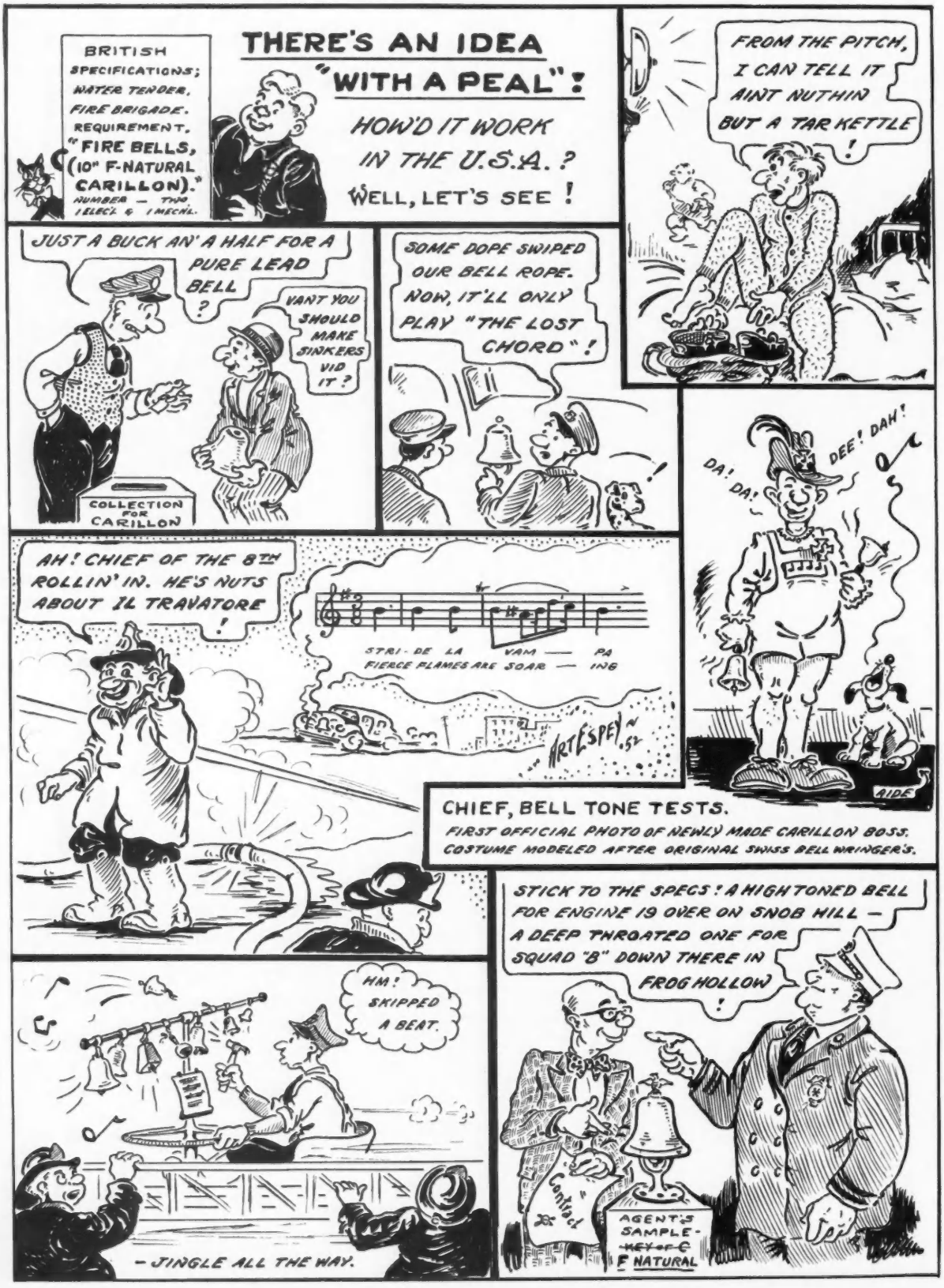
Fire fighter Bill Henderson used this helmet during the spill fire. It is made by James Hendry, Ltd., of Glasgow, Scotland, and consists of a rigid leather shell and has a transparent detachable visor made of methyl methacrylate plastic.

Major Huntoon models the protective head covering which he and members of the South Portland Fire Department developed for use in fighting flammable liquid fires.

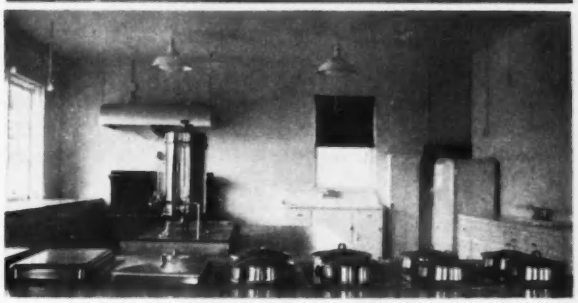
New York City Gets More Pumpers

HERE is one of 42 new Ward-LaFrance 750 gpm pumpers recently acquired by the New York City Fire Department. Each pumper is powered by a 240 hp. 2400 rpm Waukesha motor and has a 750 gpm Waterous pump and a 250-gallon booster tank. The deluge gun on top is connected by pipe to the pump and has two-way siamese connections on each side. The pumpers were purchased through matching funds of the U. S. Federal Civil Defense Administration program.

A recent British publication contained specifications for a water tender for fire brigade use. Included was the requirement for "Fire bells (10-in. F-Natural Tone Carillon)." On this page Art Espey shows what might occur if U. S. fire department members should become so tone conscious.

Art Espey has been a regular contributor to FIREMEN and other well-known fire service publications, is an experienced officer, and has been a long-time friend of many members of the fire service. He has recently joined the Hollingsworth Company, Philadelphia, Pennsylvania.

BRITISH SPECIFICATIONS; WATER TENDER, FIRE BRIGADE. REQUIREMENT, "FIRE BELLS, (10" F-NATURAL CARILLON)." NUMBER — TWO 1 ELECT. & 1 MECHL.
THERE'S AN IDEA "WITH A PEAL": HOW'D IT WORK IN THE U.S.A.? WELL, LET'S SEE!
FROM THE PITCH, I CAN TELL IT AINT NUTHIN BUT A TAR KETTLE!
JUST A BUCK AN' A HALF FOR A PURE LEAD BELL?
VANT YOU SHOULD MAKE SINKERS VID IT?
COLLECTION FOR CARILLON
SOME DOPE SWIPED OUR BELL ROPE. NOW, IT'LL ONLY PLAY "THE LOST CHORD"!
DA! DA! DEE! DAH!
AIDE
AH! CHIEF OF THE 8TH ROLLIN' IN. HE'S NUTS ABOUT IL TRAVATORE!
STRI-DE LA VAM — PA
FIERCE FLAMES ARE SOAR — ING
ART ESPEY '52
CHIEF, BELL TONE TESTS.
FIRST OFFICIAL PHOTO OF NEWLY MADE CARILLON BOSS. COSTUME MODELED AFTER ORIGINAL SWISS BELL WRINGER'S.
STICK TO THE SPECS! A HIGH TONED BELL FOR ENGINE 19 OVER ON SNOB HILL — A DEEP THROATED ONE FOR SQUAD "B" DOWN THERE IN FROG HOLLOW!
Contact
AGENT'S SAMPLE- ~~KEY OF C~~ F NATURAL
HM! SKIPPED A BEAT.
— JINGLE ALL THE WAY.

NFPA Member Departments



Trevose Fire Company
Trevose, Pennsylvania

THIS fire station was recently dedicated by the Trevose Fire Company, headed by Chief Elwood Tomlinson. Members of the department contributed 6200 man hours of labor in constructing the station while other labor entailed 300 man hours.

The apparatus room houses a 500 gpm pumper mounted on a Reo chassis, an 800-gallon tank truck on a White chassis with a 250 gpm pump and a 500-gallon tank truck on a Chevrolet chassis with a 250 gpm pump. The fire station also features the large kitchen shown in the bottom picture. The Ladies' Auxiliary, headed by Mrs. William Weber raised more than $7,000 towards the cost of the fire station and have taken the responsibility of equipping the kitchen completely.

Stirling Volunteer Fire Company
Stirling, New Jersey

THESE members of Stirling Volunteer Fire Company No. 1, headed by Chief Daniel P. Cerulli, recently dedicated the new fire station shown above. At the same time they put in service a 1952 Oren 750 gpm triple combination pumper featuring a Hale pump, a 35-ft. ladder, a 500-gallon tank and other fire-fighting equipment. The department also has a 500 gpm pump mounted on a 1939 Diamond T chassis with a 250 gallon booster tank.

The new station has a 50 by 60 ft. apparatus room with knotty pine interior walls, a kitchen, a meeting room, and is equipped with fluorescent lighting and air conditioning. The 27 volunteer members performed most of the construction work of the $45,000 building.

During the dedication ceremonies Mr. Albert Wenzel of the U. S. Hammered Piston Ring Company presented a check for $5,000 to the department to open the latest fund raising campaign. For the past 15 years this concern had allowed the fire department to use a building on plant property as a fire station.

New Hamburg Fire Department
New Hamburg, New York

CHIEF John M. Wood heads this volunteer fire department of 208 members, including 60 active fire fighters. The department protects an area of 7 square miles in the south portion of the Township of Poughkeepsie in Dutchess County. There are two fire companies housed in separate stations. Apparatus consists of a Seagrave 750 gpm pumper, a Mack Jr., emergency truck, an American-LaFrance 500 gpm pumper and a 1940 Buick ambulance.

The emergency truck (shown above) is equipped with a 2500 watt Homelite generator, cable and floodlights, an E & J resuscitator, 2 Chemox masks, forcible entry tools, a Homelite portable pump and other emergency equipment. This truck is manned by a special squad of 20 men who maintain their status through examinations, satisfactory attendance at drills, and practical work with all the emergency equipment. Each year the man who holds the highest rating in these qualifications is awarded an all-expense-paid trip to the Fire Chief's School in Old Forge, New York.

All members of the department participate in the fire training course offered by the Bureau of Fire, New York State Fire Training Division.

Funds for the department are derived from taxes in the fire district while social and civic activities of the fire companies are supported by funds raised through fairs, subscriptions and other activities. Each year the department sponsors Christmas and Hallowe'en parties for children in the community in addition to supporting Junior and Little League baseball teams.

Handling Common Contagious Diseases in an Emergency Ambulance

By William D. Claudy, M.D., Board of Police and Fire Surgeons, Washington, D. C.

Dr. Claudy's articles on Artificial Respiration, which appeared in the October, November and December, 1952, issue of FIREMEN, *evoked such favorable reader response that they have now been combined in a single reprint edition, available from the NFPA Executive Office. In this new series Dr. Claudy discusses what methods and precautions should be followed by rescue squad members who must handle persons infected with contagious diseases. Readers are invited to send questions and comments to the Editors of* FIREMEN, *NFPA Executive Office, 60 Batterymarch Street, Boston 10, Massachusetts.*

Part II (of three parts)

Whooping Cough (Pertussis)

WHOOPING cough is an acute, specific, and highly contagious disease involving the respiratory tract and due to the bacillus pertussis. It is characterized by spasmodic attacks of hard coughing which end with a characteristic whoop and with the expulsion of a very tough, stringy mucous from the windpipe. Bacteria are frequently transmitted by nose and throat droplets and the disease is often diagnosed by placing culture plates to the mouth of the coughing patient. Healthy carriers of the infection are found, occasionally, in members of families in which there is an active case. It is probable that the bacillus can also be carried on the clothing or other freshly contaminated articles. Whooping cough is considered contagious from the onset of the first cough, about seven days after exposure, until the paroxsysmal stage reaches its maximum, that is, for about the first five weeks of the disease. Mild cases in which there is little or no whooping are not often contagious after the third week. Children should be considered exposed if in contact with a patient during the ten days preceding the first whoop or vomiting spell, until four weeks after the onset of the paroxsysmal stage. Adults are usually immune. Ambulance linens should be isolated and boiled, the compartment scrubbed and aired, and attendants should bathe and change clothes to avoid transmitting the disease. Clothes should be treated like linens.

Mumps

MUMPS is an acute, contagious disease, characterized by swelling and tenderness in one or more of the salivary glands, particularly the parotids (which are located in front of the ears), by mild constitutional symptoms, and a tendency for adult males to develop inflammation of the testicles. The disease is caused by a filterable virus which is present in the secretion of the nose and mouth and is communicated by direct contact. It is not readily carried by a third person. It is endemic in large cities, but frequently occurs in epidemic form. Most epidemics occur in winter and spring. Children between the ages of five and fifteen years constitute the majority of patients. Infants have an inherited immunity which lasts from six to ten months. Immunity following the disease is usually permanent. The incubation period is from twelve to twenty-four days, most often sixteen to eighteen days. The disease is never fatal in its uncomplicated form. It is considered infectious from twenty-four hours before the appearance of symptoms until all the swelling in the salivary glands or testicles has disappeared. In most communities there is no actual quarantine for the disease but isolation of patients is advised. Attendants should have had the disease, if not, they should mask. Air the ambulance and change linen.

Chicken Pox (Varicella)

THIS is an acute, highly contagious disease caused by a filterable virus, characterized by mild constitutional symptoms, and by an eruption which develops in crops, leaving a scab. The virus is related to that of herpes' zoster (shingles) and herpes' simplex (cold sores). Hence, the precautions for these is the same as with chicken pox. The length of time between the appearance of the eruption and the first exposure is close to fourteen days, but may vary from ten to twenty days. Uncomplicated chicken pox is never fatal, secondary complications may prove so in occasional cases. In most communities, chicken pox patients are not isolated or placarded, but are excluded from school until the scabs have disappeared. While the disease is not serious, it is extremely contagious. More than usual care should be taken when disposing of the contaminated linen and in scrubbing out the interior of the ambulance. Attendants who have been in contact with the patient should take a soap shower and change to fresh clothes.

Small Pox (Variola)

THIS is an acute, highly contagious disease characterized by an initial period of fever, headache, and backache, followed by a generalized eruption with pustule and crust formation and with a high mortality. The disease has been a scourge in all countries for hundreds of years, but within the last half century has practically disappeared since the practice of inoculation has become prevalent. At present, the disease is so rare that many physicians have never seen a case. The chance of exposure of ambulance crews is slight. Should such exposure occur, the same precautions should be undertaken as outlined for chicken pox. In addition, *all those exposed should be immediately revaccinated.* This vaccination must be done within the first twenty-four hours after exposure to gain complete protection, but partial protection may be obtained from vaccination done even several days later. To insure against possible failure through inactive virus or faulty technique, three of four vaccinations with different preparations of virus are advisable in exposed persons who have not previously been vaccinated.

Name	Synonyms	Incubation Period	Mode of Transmission	Care of Ambulance and Linens	Care of Personnel
Diphtheria	Membranous croup	One to seven days.	Droplet infection and direct contact with cases and with healthy carriers.	Air compartment. Launder linen.	Schick test before exposure. Immunize. Mask if not immune.
Scarlet Fever	Scarletina	One to seven days, usually four.	Droplet infection, fomites, carriers, pets occasionally.	Air and scrub compartment, Lysol. Boil linen. Boil or air fomites.	Dick test. Mask. Change clothes and boil clothes.
Measles	Rubeola Red measles	Seven to eighteen days, usually nine to eleven.	Secretions from respiratory tract and eyes. Droplet infection. Freshly soiled fomites.	Air and launder.	None.
German Measles	Rubella	Five to twenty-one days.	Direct contact, droplet infection from nose and mouth.	Air and launder.	None.
Whooping Cough	Pertussis	Two weeks.	Droplet infection. Carriers.	Air and scrub compartment. Isolate and boil linens.	Change and boil clothes.
Mumps	Parotitis Epidemic parotitis.	Twelve to twenty-four days, usually sixteen to eighteen.	Direct contact. Droplet infection from nose and mouth.	Air compartment. Air and change linen.	None.
Chicken Pox	Varicella	Ten to twenty days, usually fourteen.	Nose and mouth droplet infection. Direct or indirect contact.	Air and scrub compartment. Boil linen.	Change clothes. Shower.
Small Pox	None	Eight to eighteen days, usually ten to twelve.	Direct or indirect contact.	Scrub compartment. Discard and burn linen and clothing.	Re-vaccinate all exposed persons immediately.
Meningococcus Meningitis	Spinal mengitis Cerebro-spinal fever	Three to seven days.	Droplet infection from nose and mouth of patients or carriers.	Air compartment. Launder clothes.	Mask. See M.D. for possible penicillin or sulfonamide treatment if close exposure.
Typhoid Fever	Enteric fever	Ten to fifteen days	Fecal contamination (may be fly-born) of food, water, or milk.	Air compartment. Boil linen. If contaminated with urine or feces — burn.	Wash hands.
Tuberculosis	TB Koch's disease	Varies.	Infected sputum.	Use sputum cups and burn. Scrub compartment with Lysol. Boil clothes and linen.	Avoid close facial contact. Mask.
Syphilis	Lues V.D.	Three weeks.	Sexual contact, usually. Occasionally casual contact with open cases.	None. Air and launder linens.	None. If scratched or bitten, call M.D. for penicillin.
Poliomyelitis	Infantile paralysis	Seven to ten days.	Not definitely known — Direct contact? Droplet infection? Contamination of food? Insects? Carriers?	Air and scrub compartment. Boil clothes and linen.	Mask. Change clothes. Shower.

Meningicoccus Meningitis

MENINGICOCCUS meningitis (*epidemic meningitis, cerebro-spinal fever, epidemic cerebro-spinal meningitis, spinal meningitis*) — An acute, infectious disease caused by the meningococcus, characterized by local involvement of the nose and throat, secondary invasion of the blood, and, finally, by inflammation of the meninges of the brain and spinal cord which usually predominates in the clinical picture. This disease is transmitted by contamination from the nose and throat of patients or by healthy carriers. The portal of entry is through the nose and throat and the infection is carried by the blood to localize in the meninges. There is a wide variation in the severity of different outbreaks of this disease. Both epidemics and sporadic cases are commoner in late winter and spring. Males are more often affected than females.

The disease occurs in all ages, but the majority of cases are in children, except where adults are brought together from rural communities, as in Army camps. The chief factor in the spread of the disease, especially during epidemics, is the presence of carriers in the general population. The incubation period of the disease is variable. Most cases incubate from three to seven days. If the nature of the disease is known, it is wise for ambulance attendants to wear masks and to avoid close facial contact with the patient. Fomites are not significant in the transmission of the disease. Thorough airing of the ambulance and laundering of linen and clothing are sufficient to avoid further infection.

Competitive Aspects of Firemanship

By Chief Charles O. Bonnelle, Firemanship Instructor
State Board for Vocational Education, Denver, Colorado

MANY firemen's conventions feature competitive meets in fire fighting evolutions to stimulate attendance. Area and state-wide fire schools and colleges, organized and operated in the interest of better firemanship, have come to recognize that certain programs featuring such competition in practical hose, ladder, or possibly first aid evolutions, have done much to increase interest. Here in Colorado firemen have demanded that such competition be a part of their "get togethers," and it has proven to be the major attraction in practically all area and State gatherings.

Many competitive contests held by fire departments and fire schools throughout the country are based mostly upon the time required to perform given evolutions, with little or no credit being given for efficiency of performance.

I have in mind the performance of an evolution where, for example, a line of hose is attached to a hydrant with possibly two threads of the coupling engaged, with two sections of hose similarly attached, or possibly held together by hand until water shows at the nozzle, a target is upset or a pit fire extinguished. Poor or tricky loading of hose, loose and easily-separated couplings or other non-practical short cuts to a given evolution have no part in good firemanship.

IN COLORADO we have introduced a grading system based on both time and efficiency as a means of measuring such competition. A judges' grading chart has been developed to help determine the efficiency of a performance by a fire fighting team in practice or competition with other teams. When used for judging at competitive meets three judges usually are appointed. Each gives an independent grade, then the grades are averaged to obtain a final efficiency grade.

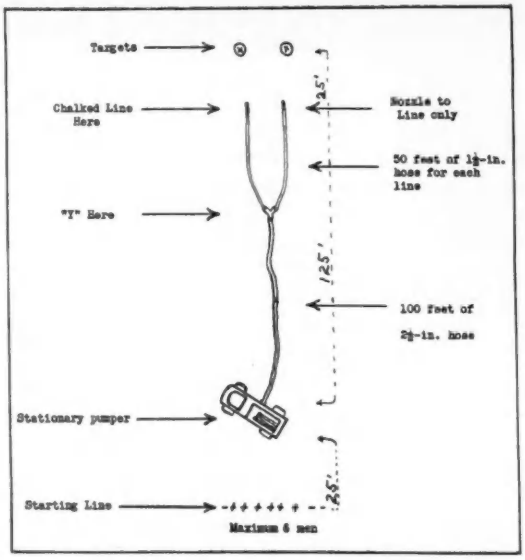
The chart is designed so that any given subject or evolution may be divided into nine parts, each an important phase of the performance. Timing is determined by a stop watch. The team performing the evolution in the best time is given a grade of 96, the second fastest team receives 94, and so forth. The timer's score added to the judges' efficiency grade determines the final grading. Thus the fastest time may not indicate a winner since the efficiency grade of the judges may alter final results.

Team Evans #5 — Commentary

Ev. No. 1	1 Drain-pickup	2 2½" Hose Load	3 1½" Hose Load	4 Leadership	5 2½" Hose Off	6 1½" Hose Off	7 2½" Hookup	8 1½" Hookup	9 Lines-Leads	10 Overall Opin.	T.C.	V.	T.P.
EX.				✓				✓			2	10	20
GO.	✓		✓		✓		✓			✓	5	9	45
FA.		✓							✓		2	8	16
PO.						✓					1	6	6

Final 89.1 Judge's Average 90.2 My grade 87

Typical grading chart. Points considered: Drain and pickup — hose should be taken to low side of street or gutter, couplings broken, hose straightened and thoroughly drained, couplings protected from damage or dragging 2½-in hose should be properly and neatly loaded into hose bed, all couplings hand tight. Unconventional loading will be penalized. 1½-in. hose load must be properly and neatly loaded. Leadership — a member of the team is designated as officer-in-charge. Other points: removal of 2½-in. hose, breaking of line, return of "stub" end to hose bed, removal of 1½-in. hose and wye and protection of wye couplings and nozzles from damage, how the 2½-in. hose is coupled to the pump outlet, how the wye is attached to 2½-in. hose and if hose clamp is used, its application and removal and treatment of wye and clamp. Kinks and leaks in line will be cause for penalty. Over-all opinion is opinion of individual judges on efficiency of entire evolution.



Typical Evolution — 2½-in. to 1½-in. wye Evolution
At least 200 ft. of 2½-in. hose is loaded into hose bed beginning with male coupling and ending with female. "Tricky" loading and loose couplings are forbidden. Two 50-ft. sections of 1½-in. hose are prepared for loading as follows: The wye with attached 1½-in. hose is placed on rear running board or immediately below trough into which 1½-in. hose is to be placed. The 1½-in. hose is loaded with one line on top of the other in hose trough with nozzles on top. All couplings to be hand tight. Pumper, either front or midship-mount, may be placed as indicated in drawing or to meet local conditions. Local driver will be used throughout contest and during layout period will have pump in gear and maintain a 90-pound pressure. The crew, not to exceed 6 men, will be stationed at a line 25 feet to the rear of the pumper. Targets are to be placed 25 feet from the limit line for the nozzles, this limit line to be 125 feet from pumper. Object of the evolution is for the crew to remove hose from apparatus, connect to the pump outlet, attach wye and 1½-in hose to the 100 feet of 2½-in. hose, stretch lines, get water and knock over targets or extinguish fires. Judging and timing will be in accordance with established rules.

Another feature of these competitive meets is the "secret" evolution. Prior to team competition an instructor guides a group through an evolution (of which he, alone, has knowledge) in slow motion, explaining each step in detail, after which the competing groups perform the evolution and are graded on time and efficiency.

In addition to using these grading systems, the Colorado State Board for Vocational Education has provided a plaque for each of the several area firemen's associations. The winning of these plaques by member fire departments is based upon the grading system, plus a department's record of attendance and participation in association activities.

We believe that there has been great improvement in Colorado firemen's training because of such evolutions, particularly in volunteer fire departments. Hundreds of fire fighters have participated in these tests in training and competition and have accepted them with enthusiasm.

MAKING A GOOD JOB OF IT

BY WARREN Y. KIMBALL

THE WATER COMES OUT HERE

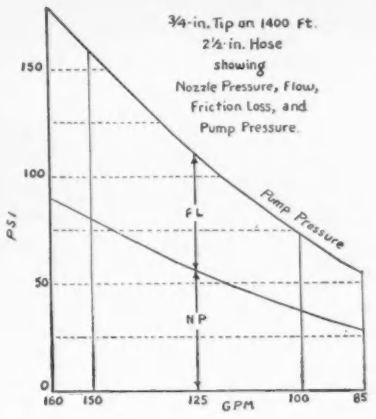
QUITE often we hear the statement made, "Fire hydraulics aren't practical. They don't work out in practice. We had a long line and low hydrant pressure and still had a fair stream when according to hydraulics we should have had twice as much pressure at the hydrant."

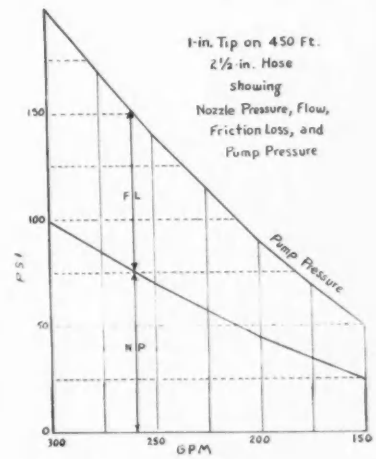
Admittedly, empirical formulae such as used in fire ground calculations have their limitations. Nevertheless, it is a happy fact that when water pressure falls, all is not necessarily lost.

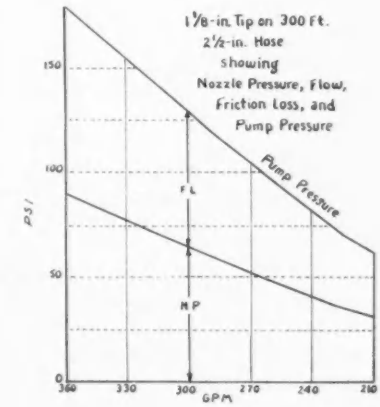
For example, let us take the case of a stream from a 1-in. tip on the end of 450 ft. of 2½-in. hose. Assume that we start with 80 psi at the hydrant. As the friction loss in 450 ft. of hose equals nozzle pressure with a 1-in. tip, we have 40 psi left at the nozzle. Incidentally, the stream is discharging 187 gpm and we are losing about 9 psi pressure per 100 ft. of hose.

Then another line is charged and perhaps the hydrant pressure drops to 60 psi. This is only 60% of the pressure we would require to give us 50 psi at the nozzle but nevertheless we still have 30 psi at the tip. This is a fair pressure for inside work with straight streams. (Spray nozzles require higher pressures and are usually supplied by pumpers.) We are disregarding any pressure losses due to elevation.

Now let us assume that a ¾-in. tip is used on a 700 ft. line from a dead-end hydrant. With the ¾-in. tip FL equals NP in 1400 ft. of 2½-in. hose. Thus with a 700-ft. line 2/3rds of the hydrant pressure reaches a nozzle at the same elevation. If we are fortunate enough to start with a 60 psi hydrant pressure we get a good 40 psi NP at our ¾-in. tip 700 ft. away. If the hydrant







pressure falls to 45 psi we still have an effective 30 psi NP. If pressure falls to 30 psi at the hydrant we still have 20 psi at the tip. This may not seem like much nozzle pressure but small tips at low pressure give a reach of about 1½ ft. per lb. Thus even this low pressure stream would have about 30 ft. range.

The accompanying charts show the NP, FL, and GPM data for ¾, 1, and 1⅛-in. tips. With a 500 ft. line of 2½-in. hose and a ¾-in. tips, ¾ths of the hydrant pressure reaches the nozzle so that a 40 psi flowing pressure at the hydrant will give 30 psi at the nozzle.

NOW, why does water continue to come out of the nozzle in a fairly satisfactory stream when the supply pressure drops? The answer is that as the pressure falls the velocity or speed of the streams falls so that the volume flowing is reduced and, of course, less friction loss occurs. A convenient and familiar formula for checking FL in 2½-in. hose with flows above 100 gpm is FL per 100 ft. $=2\times q^2+q$ (with q being the gpm $\div$ 100). Ex. what is the FL with 200 gpm? Ans. $2\times 2^2+2=2\times 4+2=10$ psi FL.

Perhaps part of the reason for confusion over the fact that we still have a stream when hydrant pressure is reduced, comes from the fact that we are accustomed to thinking in terms of 10 psi FL per 100 ft. with a 1-in. tip and 15 psi FL with a 1⅛-in. tip. Actually, these pressure losses only occur when these nozzles are discharging at 45 psi. As nozzle pressures increase the flows increase and FL goes up. When the NP falls the flows drop and the FL goes down. For example, with 30 psi NP the 1-in. tip gives us but 6.8 psi FL per 100 ft. and the 1⅛-in. tip but 10.5 psi. FL instead of the 15 to 18 psi loss experienced with higher nozzle pressures.

"Hey fellas! Old Snoopy Bugles just made a hole in one!"

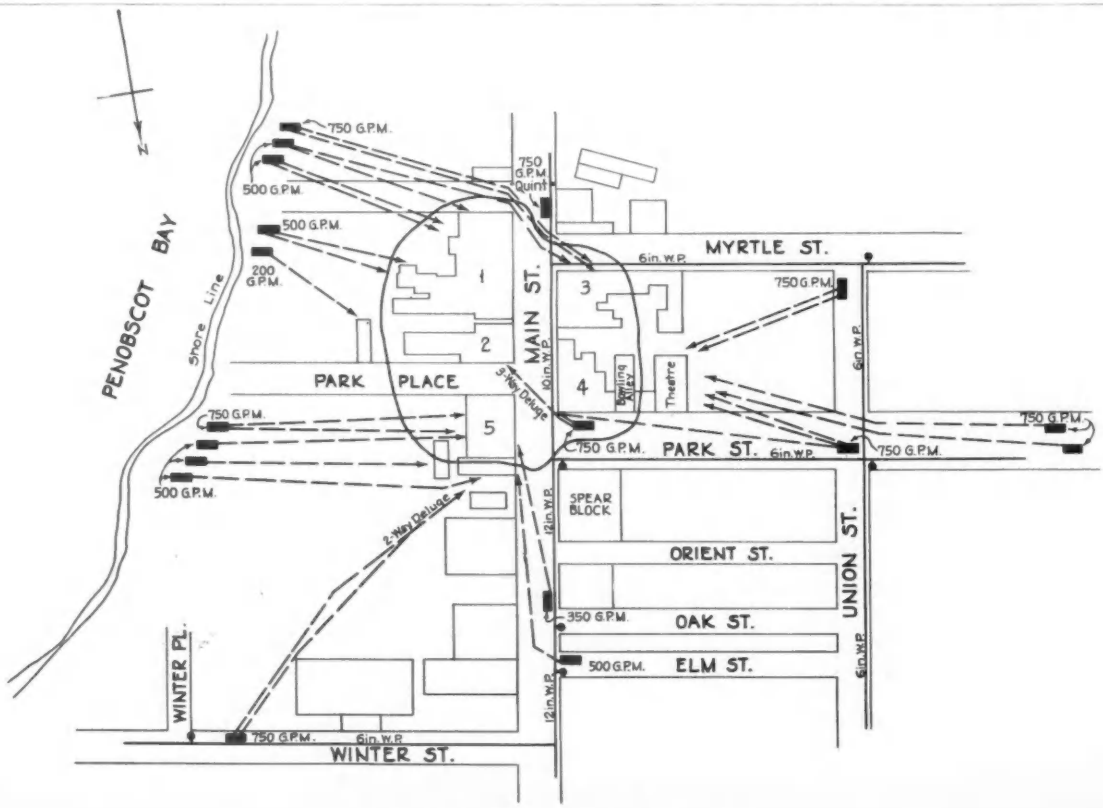
Conflagration in Rockland, Maine

From information submitted by Chief Van E. Russell, Rockland Fire Department

AIDED by delayed discovery and a 40 mph wind fire swept through the business district of Rockland, Maine, on the night of December 12, 1952, and destroyed 14 buildings which housed 22 stores, 2 hotels and a number of offices. Despite mutual aid assistance of 13 other communities and a heavy rain storm Rockland fire fighters were fortunate to make good stops and hold estimated fire loss to $1,250,000.

The fire was discovered in the basement of a 2-story wooden furniture store at 6:28 P.M. and an alarm was transmitted to the Rockland Fire Department, headed by Chief Van E. Russell (NFPA member). Despite immediate response fire fighters faced a rapidly spreading fire when an explosion of fire gases blew out several large glass windows in the furniture store including one facing a sprinklered 4-story hotel across a 4-foot alley. A large window in this hotel was also broken and fire immediately entered the lobby and several other rooms. A hotel clerk promptly warned about 60 occupants of the building and all escaped without injury.

Sidewall sprinklers helped to hold the fire in check, however a water curtain sprinkler system on the exposed side of the hotel could not be turned on since fire prevented anyone from entering the basement where the control valve was located. Flames also spread to an unsprinklered wooden hotel on the other side of the furniture store, crossed Main Street and ignited several



Scale: 1 inch equals approximately 190 feet

wooden buildings, crossed Park Street and involved a 3-story brick wood-joisted building. Other buildings on the fringe of the fire area were also involved by the time arriving mutual aid fire fighters surrounded the area. (See sketch.)

RESPONDING units to Chief Russell's call for aid included Thomaston, South Thomaston, Camden, Belfast, Brunswick, Augusta, Bangor, Waldsboro, Friendship, Rockport, and the U. S. Coast Guard. Main Street had 10-in. and 12-in. water mains and other side streets had 6-in. mains but the limited number of hydrants in the vicinity hampered fire fighters. Pumpers had to draft from the dock area as shown in sketch. Fortunately the tide was high at the time of the fire and allowed drafting to continue for about 3 hours. According to Chief Russell low tide would not have permitted drafting operations in that vicinity.

Chief Russell also stated in his report that he had his pumpers operating at 200 to 240 pounds pressure with short hose lays but the strong winds made many streams ineffective. Altogether 16,100 feet of hose was laid and 2 deluge guns were operated.

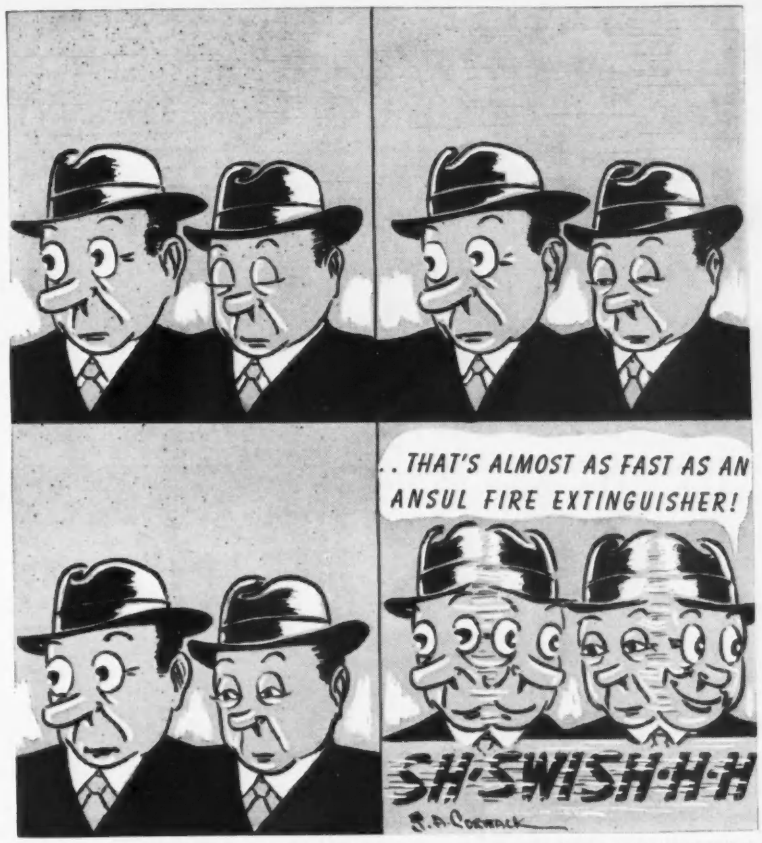
Seventeen fire fighters suffered burns or eye injuries and 1,200 feet of hose was destroyed by the fire.

(Diagram opposite page)

FIRE started in the furniture store (1) and when the explosion of fire gases occurred fire burst across the 4-foot alley and into the Hotel Rockland (2), then crossed Main Street to involve buildings in blocks (3) and (4) and across Park Place to involve block (5).

The sketch shows approximate placement of apparatus and the location of hydrants. The fire was finally confined to the area shown by the wavy oval. Note the close exposures, especially between the bowling alley and the theatre in block (4) where fire fighters made a good stop.

Note also that Main Street has 10- and 12-in. mains and that other streets have 6-in. mains but that there were only six hydrants in the immediate vicinity.



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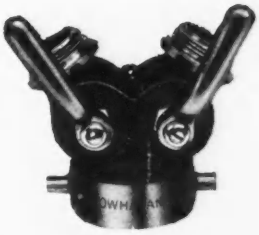

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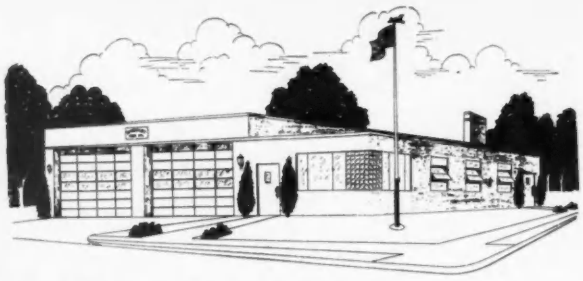
Phones 93 & 94 Charles Town, West Virginia
Established 1892



McKinley Fire Company No. 1, McKinley, Pennsylvania

A NEW $40,000 brick and concrete block fire station is planned for this volunteer fire company which is one of five fire companies comprising the Abington Township, Pennsylvania, Fire Department. Top illustration at right shows an artist's conception of the new station while the picture at left shows members of the fire company in front of the old station.

McKinley Fire Company No. 1 protects an area of 4 square miles and 50,000 population and also serves a rural district of 2 square miles. Presiding officers include Chief Henry J. Leary, Assistant Chief Edward V. McNeill, President Walter J. Kose, and Secretary Edwin H. Geissler. There are 200 members including 50 active fire fighters.

Apparatus consists of three triple combination pumpers including a 1949 American-LaFrance 750 gpm pumper, a 200 gpm pump mounted on a Chevrolet chassis, and a 750 gpm pump on an Autocar chassis. All apparatus is equipped with two-way radio operating on the system of the Abington Township Fire Department.

Funds for the fire company are raised by taxes in the Township by dances and drawings, and by a "contributing membership" drive conducted annually. Members of the fire company attend the Pennsylvania State Fire School each year and participate in contests with the other fire companies in Abington Township.

"Please, Anson! This is only a dry run."

FOR BETTER FIRE DEFENSE
The DUAL
Fire Fighter pump

DUAL FIRE FIGHTER PUMP
MODEL 6201

Fire departments everywhere are enthusiastic in their praise of the **"Dual Fire Fighter"** pump. It has, on numerous occasions, saved property from costly fire damage, bringing fires quickly under control in isolated localities where large truck pumpers could not reach the source of water.

The **"Dual Fire Fighter"** is especially designed for fire fighting equipment. It is used **to relay water** to the truck pumper or it will **fight fires direct.** Mounted on a truck or trailer it is an effective piece of fire fighting equipment for rural volunteer fire departments.

- As a **booster pump** it will deliver 175 g.p.m. through 300 ft. of 2½ in. hose to the top of a hill 50 ft. high.
- For **fighting fire direct** it will throw 100 g.p.m. at 80 lbs. or 80 g.p.m. at 88 lbs. pressure -- Capacity sufficient to supply two 1½ in. lines.
- **It primes in 15 to 30 seconds.** It weighs only 162 lbs. Equipped with carrying handles, easily carried by two men.

Quick action of the **Dual Fire Fighter** may assist **you** in saving costly fire losses.

Ask for Bulletin No. 9-FD-11

The "Dual Fire Fighter" requires very little space on the pumper. Pump is integral with 4 cycle, single cylinder, air cooled engine of 8¼ H.P. Every pump is factory tested before shipping.

THE GORMAN-RUPP COMPANY
MANSFIELD, OHIO

Roddis Plywood Corporation Industrial Fire Brigade

TO PROTECT the mills and wood-working shops that are part of the Roddis Plywood Corporation, Marshfield, Wisconsin, an active fire brigade of 25 members is maintained. Chief Anthony Miller heads this brigade which is on duty day and night with 12-man crews, all of whom are regular plant personnel.

The brigade participates in training with the Marshfield Fire Department and supplements that department when needed. Half of the members of the fire brigade have obtained Red Cross First Aid certificates.

A 500 gpm OCD pumper is kept on plant property and has 1500 feet of 2½-in. hose together with other standard equipment. Four hose stations and hydrants, a fire alarm system with 29 boxes, extinguishers and other fire fighting equipment are located throughout plant property. Six watchmen in two shifts provide patrols when the plant is operating at less than full strength.

Most of the buildings are equipped with wet and dry pipe sprinkler systems. A 47,000-gallon water tower and a 165,000-gallon reservoir and a 1,000 gpm pump form the water supply for plant property.

Pictures at upper right
(Left) Roddis Fire Brigade Chief Anthony Miller inspects the sprinkler system. *(Right)* Members of night shift of the brigade.

California Rural Fire Association Meeting

THE twenty-second annual meeting of the California Rural Fire Association will be held April 10–12 in Fresno, California, with headquarters at the Californian Hotel. Further informatoin may be obtained from Secretary Clifford A. Ommert, 55 Cambridge Way, Piedmont 11, California.

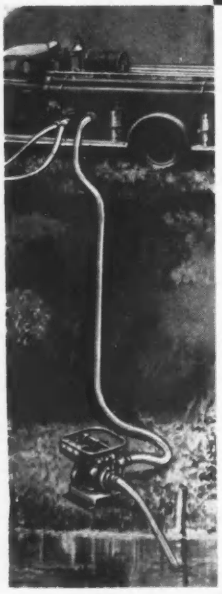
NEW FIREWATER "5" doubles
FIREFIGHTING EFFICIENCY!
FIREWATER
THE foremost chemical penetrant, FIREWATER, *is now available* in convenient *pre-measured* tube form. Added to any piece of five gallon capacity fire apparatus, FIREWATER will more than double its efficiency by actually making the water "wetter."
With surface tension lowered to 31 dynes per square centimeter, water will spread and penetrate *instantly* instead of puddling and running off.
For back packs, CO_2 charged water extinguishers, farm spray rigs, water buckets—FIREWATER "5" is the most convenient, economical, and easy-to-use penetrant available today!
THE FIREWATER COMPANY
1 First Street, Los Altos, California
WRITE FOR FREE SAMPLE TUBE!
LEADING MANUFACTURERS OF WETTING AGENTS FOR AGRICULTURE AND INDUSTRY

Fires in the News

Schlossman's Furniture Store, New York City, N. Y., December 13. *(N. Y. Daily News Photo.)* A five alarm fire involved this furniture store and warehouse in the Bronx and damage was estimated at $250,000. Chief Peter Loftus and five other fire fighters were injured.

Dwelling, Pittsburgh, Pa., December 6. *(United Press Photo.)* During a heavy rain storm an automobile skidded and struck the exposed natural gas service line of this residence. Twenty minutes later an accumulation of gas exploded and demolished the building. Six children died in the fire and explosion. Pittsburgh fire fighters responded with 14 engines, 2 ladder companies, and 5 other units but had to knock down this fire and cover close exposures before wreckage could be moved for rescue attempts. All the occupants of the house were asleep when the blast occurred. The father and mother of the children were blown almost clear of the wreckage but were still alive although in a state of shock when fire fighters arrived.

you can do MORE THAN EVER
with this lighter, more powerful
American-Marsh 3XD Pump!



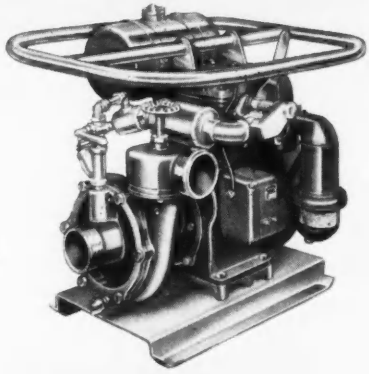
Useful? You bet it's useful! And more than ever, now, because recent design improvements have *increased* engine horsepower and *reduced* total weight. You get greater pressure – greater water volume delivered – and easier carrying too!

As a booster carried on your apparatus, it can help you out of tight spots! From pond, stream or cistern, the 3XD delivers enough water to the pumper, under normal conditions, to supply two 1½″ hose lines with ½″ nozzles, or one 2½″ line with ¾″ nozzle. Left at the fire to pump out a basement, it frees your pumper to return to quarters.

Highly popular with rural departments, the 3XD is equally valuable in the city for civil defense, flood recovery, etc. Why not get complete details?

Write for American-Marsh Bulletin 8120.

Use the 3XD as a booster for your pumper — or to pump out basements. Handles dirty water without serious damage.



AMERICAN-MARSH PUMPS

BATTLE CREEK MICHIGAN

In Canada:

American-Marsh Pumps (Canada) Ltd., Stratford, Ont.

Church, East Orange, N. J., December 28. (*Wide World Photo.*) Fire had a half-hour start in this church before discovery and was beyond control by the time an alarm was transmitted. Damage was estimated in the vicinity of $250,000.

Gas bottling plant, Cambridge, Mass., December 26. (*United Press Telephoto.*) While workers were filling tanks with acetylene on an assembly line a plug blew from one of the cylinders and a spark ignited the gas. In the ensuing 2-alarm fire more than 30 of the cylinders exploded as fire destroyed the one-story metal-sheathed building.

Business block, Kansas City, Mo., January 5. (*Associated Press Wirephoto.*) An explosion occurred in a restaurant and the blast and ensuing fire destroyed two buildings which housed five business establishments. Damage was initially estimated at $500,000.

Machinery corporation, Panama City, Fla., December 22. A passerby discovered fire in this building and notified the State Highway Patrol who called fire fighters. Flames destroyed two masonry steel framed buildings before extinguishment. Loss was estimated at $500,000.

Bakelite Plant, Bound Brook, N. J., December 22. (*Associated Press Newsphoto.*) An explosion occurred in this building used for manufacturing bakelite and 1 man was killed and 27 injured before fire was controlled.

The VOLUNTEERS *volunteer* their praise!

FEDERAL BEACON RAY

WARNS FROM EVERY ANGLE!

Scores of unsolicited letters from volunteer firemen praise the Beacon Ray as the finest visible signal they've ever used. Here's why! the Beacon Ray *commands* caution from EVERY ANGLE! 2 powerful, sealed-beams rotate 360° even when apparatus is standing still! As more and more amateurs and "pro's" specify Beacon Ray, this sweeping flash of intense light becomes THE symbol of the fire fighter . . . the warning light you too should use.

SPECIFY THE FINEST— FEDERAL BEACON RAY LIGHTS— FEDERAL COASTER SIRENS

Write today for Emergency Signals Bulletin

FEDERAL ENTERPRISES, INC.

Formerly: FEDERAL ELECTRIC COMPANY, INC.

8717 SOUTH STATE STREET CHICAGO 19, ILLINOIS

***WATER* when and where you want it!**

with **HARODIKES**

Portable Canvas Water Tanks

THE ECONOMICAL AND EFFICIENT WAY TO CARRY AND STORE WATER.

ON THE JOB - ON THE SPOT
KEEPING AMERICA GREEN

EXCLUSIVE FEATURES

- Self Supporting
- Easily Back-packed
- Ideal for Relay Pumping
- Easily Transported

Available in 150 & 300 gallon sizes

A WATER SUPPLY AT THE SCENE OF THE FIRE

Write TODAY for Full Information and Price List

HARODIKES INCORPORATED
NORTH DIGHTON, MASSACHUSETTS

CAIRNS
HELMETS
SINCE 1836

Write for Catalog 340

CAIRNS & BRO., Inc. - Allwood, Clifton, N. J.

Better Hose Care---
with CIRCUL-AIR

UL SA

THE AIR CONDITIONING
FIRE HOSE DRYER

Circul-Air is the patented, electrically operated hose dryer which circulates prewarmed fresh air through coiled wet hose at the rate of 5 to 6 air changes per minute. It's designed to lengthen hose life, improve the appearance and functional design of new fire houses, and to save floor space and hard work. NO OTHER DRYING METHOD IS SO FAST—SO ECONOMICAL—SO EASY TO USE.

ACCEPTED • APPROVED • RECOMMENDED

ACCEPTED as the standard drying medium in over 1500 fire departments — APPROVED by the leading testing laboratories — RECOMMENDED by fire hose manufacturers and Fire Chiefs "all over America."

PATENTED

If you are building, send for free copy of "Fire Station Design"

NEW HOSE DRYING MANUAL
TELLS HOW TO DRY, STORE
AND CONSERVE FIRE HOSE
May we send you one?

THE CIRCUL-AIR CORPORATION
575 East Milwaukee Detroit 2, Michigan

Billion Dollar Fire Loss in 1952

THERE were 12,535 deaths caused by fire in the United States and Canada in 1952, according to approximate estimates prepared by the NFPA Fire Record Department. This figure was compiled December 24, 1952, and does not include any loss of life by fire that occurred in the last week of the year.

Fires caused $896,800,000 property damage in the United States in 1952, based on preliminary estimates. Included in this estimate is $792,800,000 damage to buildings and contents, and $104,000,000 loss in aircraft, motor vehicle, forest and other miscellaneous fires not involving buildings. Corresponding 1951 figures were $836,600,000, $739,500,000 and $97,050,000 respectively. Sufficient data are not available to estimate 1952 Canadian losses. However, if the 1952 loss approximates the loss in 1951 ($83,106,000 excluding Departments of Defense and Transport) the combined United States and Canadian losses will approach one billion dollars for the first time in history.

Fire Fighters' Frustrations

TWO news items concerning fire fighters have been making the rounds recently. The first concerns a member of a fire department in New England who had struggled with a line to the third floor of an involved building. He directed the hose stream at flames leaping up a nearby wall but to his chagrin the water appeared to have no effect. Upon inching closer to the target he discovered that he had been cooling a large mirror which was reflecting the fire that was burning nicely behind him!

In a large city fire department further south, a pumper operator made his first "run" in response to a fire alarm. When the apparatus reached the fire ground the officer in charge made his sizeup and began to call for water on the lines. After yelling the order twice and seeing the nozzle men still waiting the officer headed back towards the pumper yelling "Where's that * * * water?"

From the pumper operator came the plaintive response "Just a second cap'n. I've only got one more thing to try!"

Is **YOUR FIRE DEPARTMENT** *Taking Full Advantage of*

NFPA Fire Department Membership?

IS YOUR fire department receiving SIX (6) subscriptions to FIREMEN with its NFPA Fire Department Membership? Are these magazines being distributed properly to the officers and men in your department? Have you asked how many members in your department would like to receive extra subscriptions to FIREMEN during the coming year for only $1.25 each? Are the other publications that are included in your membership being made available through your department library?

This is a good time to "poll" your fire fighters and to make certain that your department is receiving the full benefits of its membership in the NFPA. Here is an outline of what NFPA Fire Department Membership can bring to you and your fire department:

As a member of the uniformed fire service, your membership will cost $12.50 per year and will include subscriptions to FIREMEN, to the monthly *Fire News*, to the NFPA *Quarterly*, and also a number of important publications which are made available to members from time to time. You will also receive a handsome membership certificate, suitable for framing.

If your fire department enrolls as a unit, or if you are a fire chief, then SIX (6) subscriptions of FIREMEN will be included in the membership, together with the above publications, for the same $12.50. If you desire to have more than six subscriptions sent to your department, then additional subscriptions will cost $1.25 each.

NFPA Fire Department Membership is available to individuals in the uniformed fire service, to any paid, call, or volunteer fire department, and to industrial fire brigades. The "six-copy" plan of membership is available only to chiefs of fire departments and fire departments as unit members.

Other members of NFPA may secure subscriptions to FIREMEN for $1.25 per year in addition to regular membership dues. Any additional subscriptions to FIREMEN also cost $1.25 per year.

Why not be well-informed during this year in matters pertaining to fire protection? Merely fill out the application blank below and mail it to the NATIONAL FIRE PROTECTION ASSOCIATION, 60 Batterymarch Street, Boston 10, Massachusetts.

CLIP ALONG THIS LINE AND MAIL TO ADDRESS BELOW

F-2-53

NATIONAL FIRE PROTECTION ASSOCIATION
60 Batterymarch Street, Boston 10, Mass., U.S.A.

Application for Fire Department Membership in NFPA

Please enroll .....

Individual ☐
Paid Fire Department ☐
Call or Volunteer Department or Company ☐

City or Town..... **County**.....

Mailing Address.....

.....**State or Province**.....

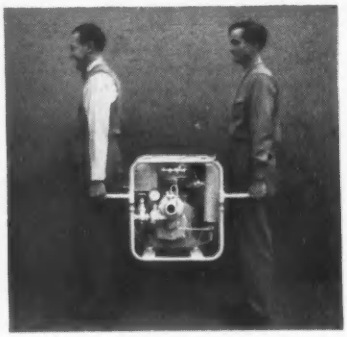
Fire department organizations and chiefs of fire departments joining NFPA should send mailing list for 6 subscriptions to NFPA FIREMEN magazine. Additional subscriptions cost $1.25 each.

Enclosed $12.50 (Check or money order) ☐

3 WORKHORSES for YOU
With Amazing Performance

HALE Portable Pumping Units

	U. S. Gallons Per Minute	Disch. Press. Lbs. Per Sq. In.
FZZ	60 100	100 70
FZ	50 300	60 10
HPZZ	15 50	200 100



These 3 pumping "Workhorses" provide amazing volumes and pressures for efficiently fighting a great variety of fires. All three units are conveniently portable by two men; can be easily mounted or carried on any type of apparatus for fighting fires while in motion from booster tank; often used to pump from inaccessible water source into major pumper, or to fight fires direct.

Write today for Circulars on Models FZZ, FZ and HPZZ—at least one of which is sure to meet your fire fighting requirements. Ask for demonstration; no obligation.

(Fire Pumps in All Standard Capacities)

HALE FIRE PUMP CO.
Conshohocken, Pa.

HEIN-WERNER
Hydraulic Jacks
save seconds--save lives

Model 50.12AA
50-TON JACK

Seconds count in fire-fighting and rescue work! That's why the easier handling and speedier positioning advantages of a Hein-Werner hydraulic jack are so important. To provide this extra efficiency, all models from 12 to 100-ton capacity have built-in carrying and positioning handles.

Fire departments and rescue squads throughout the country use Hein-Werner jacks for adding bracing strength to weakened structural members, for forcing doors, moving partitions, lifting heavy objects under which persons are pinned, and for many other applications.

Write Dept F today for the surprisingly low prices of all Hein-Werner hydraulic jacks from models of 1½-tons to 100-tons capacity.

HEIN-WERNER CORPORATION • WAUKESHA, WIS.

Hein-Werner HYDRAULIC JACKS

Membership Report

NFPA Welcomes:

THE following fire chiefs and fire departments who have enrolled in the Association as new members. Present NFPA Fire Department Membership totals 2,024 fire departments and 24,444 men.

British Columbia: Ashcroft Fire Department, Ashcroft.

Kansas: Conway Springs Fire Department, Conway Springs.

Ohio: Hilliar Township-Centerburg Volunteer Fire Department, Centerburg.

Pennsylvania: East End Fire Company, Hazelton.

Texas: Chief Jim Collin, Central Fire Station, Texas City.

Wisconsin: Chief George W. Olsen, Black Earth Fire Department, Black Earth; Winter Volunteer Fire Department, Winter.

Iowa: The 29th Annual Iowa State Fire School will be held on the campus of Iowa State College, Ames, May 18–21.

Kentucky: The Kentucky State Fire School will be held at the University of Kentucky, Lexington, June 9–11.

Dates to Remember

Arkansas: The Arkansas State Fire School is scheduled to be held at Little Rock, March 16–18.

Pennsylvania: The 1952 Philadelphia Safety Conference will be held in the Bellview Stratford Hotel in Philadelphia, March 4 and 5.

The Spring meeting of the Keystone State Fire Chiefs Association will be held at Montoursville on May 16. The Loyalsock Fire Company and the Willing Hand Hose Company will be hosts.

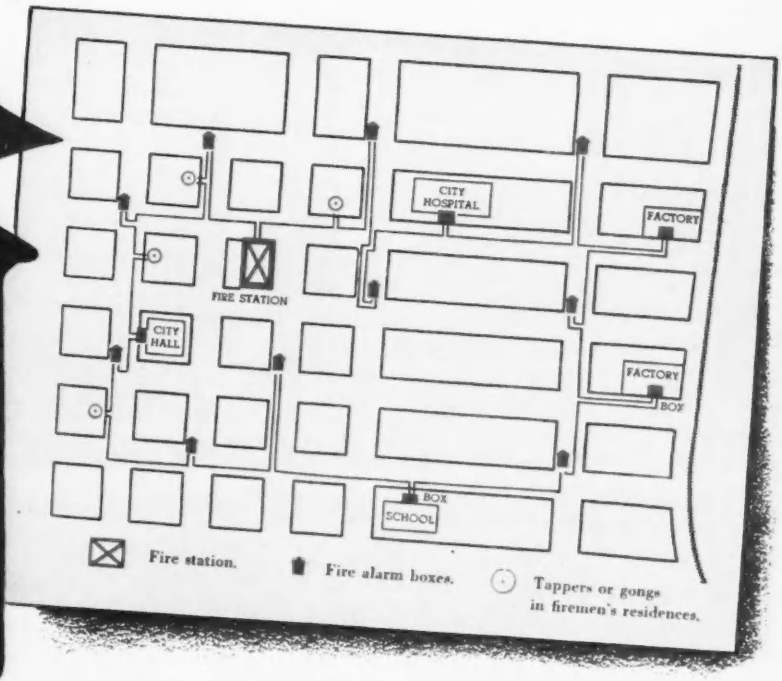
Tennessee: The 1953 Fire Department Instructors' Conference will be held in Memphis, Tennessee, February 24–27.

Arson Investigators' Seminar at Purdue University

THE ninth annual Seminar and Training Course in the Detection and Investigation of Arson will be conducted at Purdue University, Lafayette, Indiana, April 27-May 1, 1953. The Seminar has been held annually since 1945 and has had an average attendance of more than two thousand investigators and others interested in the control and prevention of arson.

Further information and detailed announcements are available from the Public Safety Institute, Purdue University, Lafayette, Indiana.

A Big City Fire Alarm Box System for the Smaller Community —at a cost within reason



The fire alarm box system gives you positive, *instant* communication with the

FIRE DEPARTMENT
FIRE CHIEF • VOLUNTEERS
RESCUE SERVICE

— announcing the *location* of the fire when the fire alarm box is pulled.

Your community can now have all the advantages of a big city fire alarm box system. In most cases the installation will give extra advantages, frequently contributing to a reduction in insurance premiums. As the community expands, your fire alarm box system need not become obsolete. It can be extended on a circuit-by-circuit basis, to avoid a heavy investment in any one year.

Remember that every conflagration *starts* as a small fire. Keep small fires small — the fire alarm box provides instant communication for automatic organization of your fire defenses at the *source of the fire.*

Last year's fire loss amounted to over $730,000,000, most of it needless waste.

THE GAMEWELL COMPANY
NEWTON UPPER FALLS 64, MASSACHUSETTS
In Canada: Northern Electric Company, Ltd., Belleville, Ontario

GAMEWELL®

THE BOX IS POSITIVE

Reduces Human Error

Globe DURABLE FIREMEN'S Suits

"The Suit That Suits"

Here's Your Warmest Friend On A Cold, Wet, Run.

A Globe Suit is health insurance. Its snug, warm, weatherproof construction keeps out the wind and water. When you wear a Globe Suit you are being 100% protected. All Globe quick hitch suits have the new Neoprene* interlinings and many other exclusive features. There are several different kinds made in black, brown or white. Coats and pants may be bought separately. Write today.

Gentlemen: Dept. FM

Please send me, without obligation, your FREE catalog and samples of materials used in the Globe Suits. Also the name of the Globe Dealer nearest me.

Name.....

Address.....

GLOBE MANUFACTURING CO.
PITTSFIELD, N. H.

*Made with 100% DuPont Neoprene

Endorsed by America's Fire Chiefs Everywhere Since 1901

for RUGGED DUTY!

MIDWESTERN
PROTECTIVE CLOTHING

The overwhelming preference for Midwestern Protective Clothing is the result of outstanding performance when the going is tough and the chips are down. The superior quality, design, fabric texture and many exclusive features found in Mackinaw Coats and other Midwestern garments help increase your department's efficiency and provide extra protection for your men at the scene of the blaze.

PROTECTION
COMFORT — SERVICE

You will find the type of fabric exactly suited to your needs in our wide selection of rubber materials. You can absolutely depend on the softness and flexibility of these high-grade materials to meet your most exacting requirements for lasting comfort, rugged service and greater efficiency on the job.

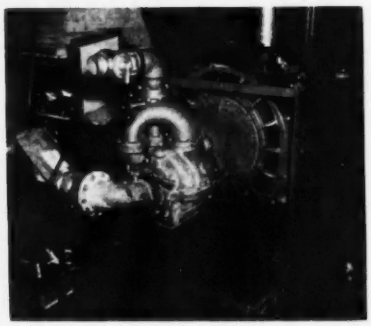
MIDWESTERN MFG. CO., Mackinaw, Illinois
Manufacturers of the Famous **MACKINAW Coats**

Aluminum Bodies With Lighten Fire Pump

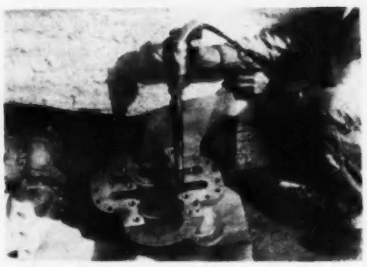
BY CHANGING from cast iron to aluminum for the bodies of their ZEY series fire pumps, the engineers of Hale Fire Pump Co., Conshohocken, Pa., reduced the weight of each pump 250 lbs. With cast iron bodies the pumps previously weighed 600 lbs., as compared with the present 350 lbs. per pump with aluminum bodies.

In designing for aluminum, however, there arose the problem of thread strength in the 70 tapped holes by which the bodies are assembled. Without reinforcement, the aluminum threads would not safely stand up under a hydrostatic test pressure of 800 psi. The manufacturer resolved this quandary by standardizing on stainless steel Heli-Coil thread inserts.

Formed of wire of a diamond-shaped section, these spring-like inserts add ample strength to withstand the high pressures, resist corrosion and, of course, eliminate the galling and wear which would de-



Studs fitted up through the bottom half of the housing of this 2-stage centrifugal fire pump turn into insert-reinforced threads of tapped holes in the top section. They hold the two halves of the aluminum housing together against a hydrostatic pressure of 800 psi.



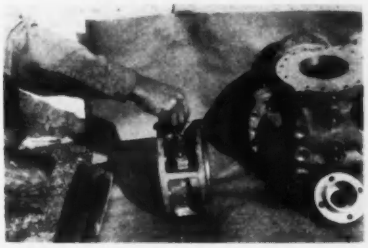
Tapped stud holes in top half of aluminum pump housing being fitted with Heli-Coil inserts. Prewinder inserting tool, attached to an electric drill, reduces the OD of the spring-like insert permitting its easy assembly into threads in tapped holes. After insert is fully installed, it expands and binds against the tapped threads and will not vibrate loose.

s With Thread Inserts ump by 250 Pounds

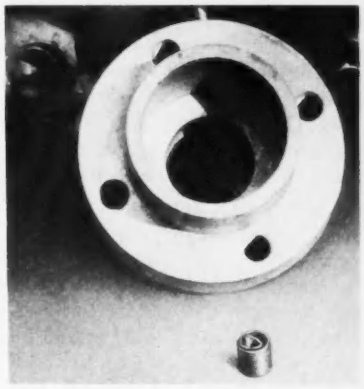
velop in aluminum threads as the pumps are disassembled for cleaning or repair. By distributing the stress over a larger area they also prevent the stripping which might result in the field should mechanics draw up the cap screws in the aluminum bodies with too much force.

Two 5/16-18 inserts are used in the head casting, 10 5/8-18 inserts in the body and 58 inserts of 7/16-20 size in the packing housing and body. The small inserts (5/16 are installed manually with a hand inserting tool supplied by Heli-Coil Corporation of Danbury, Conn., which manufactures the inserts. The larger size inserts (7/16 and 5/8) are installed with portable electric tools.

Preparing the casting to receive the inserts takes no more time than is normally required to drill and tap aluminum. Standard tap drill sizes are used and taps supplied by the insert manufacturer form the threads that receive the inserts.



Insert being assembled into pump drive housing with hand inserting tool. Inserts are installed by turning them into internal threads tapped according to Heli-Coil specifications.



Four holes in the packing gland are lined with inserts of size shown in foreground. Notice the tang on topmost coil. A slotted mandrel in the inserting tool engages this tang to drive the insert. After assembly, the tang is broken off at a break-off notch on the last coil.

EVENLY MATCHED...

for purpose and quality

BADGE and CROWN, both are prized possessions, yet standards of value are measured in different ways. To the king his crown is a possession of untold value and historical significance. To you, your badge is without question a prized possession that reflects personal achievement for you. Your badge has a special meaning to you — it stands for honesty, authority, and devotion to duty.

If your badge is a BLACKINTON BADGE you realize true quality and you know that your badge is the finest. But if you are one of the few not wearing a BLACKINTON BADGE you've missed a lot in personal satisfaction. Ask to see BLACKINTON BADGES the next time your equipment supplier calls. He will gladly show you the true quality and outstanding appearance of BLACKINTON BADGES.

BLACKINTON BADGES sparkle with quality.

BLACKINTON
V. H. BLACKINTON & CO., INC., ATTLEBORO FALLS, MASS.

Blackinton Police and Fire Badges are sold throughout the United States and Canada, exclusively through authorized equipment suppliers.

"Manageable" Civil Defense Advocated

Military Told to Assure One-Hour Warning and to Furnish Data on Weapons Effects

By Horatio Bond, NFPA Chief Engineer

THE latest report on U. S. civil defense policy was issued last month with advice to the U. S. Department of Defense to make military arrangements to assure civil defense authorities of adequate warning time, preferably one hour, in event of attack. The need of additional information on weapons effects for the use of civil defense planners was stressed and particular mention was made of the problem of fires caused by A-bombs.

This most recent report was prepared by a group of experts under the direction of Associated Universities, Inc., and gets down to the meat of the problem much more effectively than the numerous reports which have preceded it. Associated Universities is a group of nine Eastern universities which operate Brookhaven National Laboratory for the U. S. Atomic Energy Commission. The report in question was prepared under contract for the U. S. Department of Defense, the National Security Resources Board, and the Federal Civil Defense Administration. These agencies are expected to find in the report a program for their guidance in future action.

SURVIVAL under attack, which could strike any section of the United States, the report found, depends on three factors.

1. Development of a national program for gradually reducing such population and factory concentrations as are at present found in New York and similar metropolitan areas. The federal agencies were told that the way to begin was for the federal government itself not to add to the congestion in these areas.

2. Improvement of air defense to the point where not only is a saturation attack impossible but a crippling attack is unlikely. The report criticised the defense authorities for their present inability to guarantee an adequate warning on proper interception of hostile attack and for denying civil defense authorities vital information on the effects of atomic bursts.

3. Construction, on an equal footing with the military, of a permanent civil defense system.

This is not only the most recent but probably the most penetrating analysis of U. S. civil defense requirements. In 1945, the Department of Defense itself tried to figure out what to do about civil defense by convening a committee of twelve generals, the gist of whose report on the subject was that they did not exactly know. Several years later, the Department of Defense arranged in 1948 for the preparation of the Hopley Report (reviewed in the NFPA Quarterly, see "Some Notes on U. S. Civil Defense," April 1949 issue, Vol. 42, No. 4, page 238). This report urged the recruitment of a lot of people for rather vague civil defense duties and received little support. In 1950, the National Security Resources Board, which at that time had jurisdiction over civil defense, issued a rehash of the material in the Hopley Report in a volume entitled "United States Civil Defense." None of these documents much affected the public apathy toward the problem. The recommendations of the current report are now receiving attention of the agencies which ordered its preparation.

THE program carried out by Associated Universities in the preparation of the report was known as "Project East River." It was under the direction of General Otto L. Nelson, Jr. (retired), Vice-President of the New York Life Insurance Co. The Project assembled a distinguished list of consultants, among them atomic scientists J. Robert Oppenheimer of Princeton, I. I. Rabi of Columbia, and Jerrold R. Zacharias of Massachusetts Institute of Technology. The group included long-time NFPA member S. F. Voorhees of the New York architectural firm of Voorhees, Walker, Foley and Smith, and C. McKim Norton, Vice-President of the Regional Plan Association, Inc., of New York, NFPA General Manager Percy Bugbee and Chief Engineer Horatio Bond.

An announcement has not yet been made as to when copies of the report of Project East River will be available. At present, the document has been put in the hands of the three federal agencies for whom it was made. Arrangements for its distribution to defense agencies will probably be made through the Department of Defense and to state and municipal civil defense authorities through the Federal Civil Defense Administration. Only those parts of the report dealing with matters for military action are secret.

A substantial portion of the nonclassified information on fire matters which is contained in this report was made available to NFPA members through the publication entitled, "A 'First Book' on Fire Safety in the Atomic Age," offered with the September issue of *Fire News*. Additional copies of this book are still available through the NFPA Executive Office for $3.00 per copy.

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What's New in Fire Equipment?

Suggestions Requested

The United Fire Company which protects the town of Montrose, Pennsylvania, and about 250 square miles of territory in the Borrough of Montrose, is expecting to build a new fire station in the near future at an estimated cost of $35,000 to $40,000. Dana A. Watrous, Vice President of this volunteer fire company and Chairman of the Building Committee states that any suggestions from manufacturers of fire protection equipment and apparatus will be greatly appreciated. Mr. Watrous may be contacted at the above address.

New Darley Catalog

W. S. Darley & Co., 2810 Washington Boulevard, Chicago 12, Illinois, has announced publication of the company's new fire equipment catalog No. 149. (See page 8 of this issue of FIREMEN.) The publication has 108 pages, 750 illustrations and covers 1100 items of fire equipment. It is available to any fire department member free of charge and may be obtained from the company at the above address.

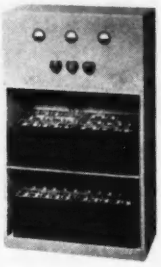
Treated Fire Blanket

The A. E. Halperin Co., Inc., 75 Northampton Street, Boston 18, Massachusetts, has introduced a fire blanket that has been approved by the Board of Standards and Appeals of the City of New York for use in that city. The blanket is treated with a fungicide which manufacturer claims is non-toxic and shows negative reaction to tests for dermatitis and sensitive skin. A product of the Monsanto Chemical Company is used for flameproofing. The blankets are enclosed in heavy gauge steel canisters, adaptable for mounting on walls or other surfaces. Descriptive literature may be obtained from the manufacturer at the above address.

New Olin Batteries

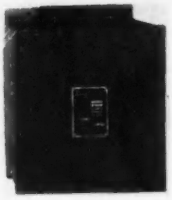
The Electrical Division of Olin Industries, New Haven, Connecticut, has announced production of 18 new models of dry cell radio batteries. Included in the new models are a 67½ volt "B" battery and a 1½ volt "A" battery for the new Emerson, RCA and Motorola receivers. The company manufactures a total of 51 different models and sizes of dry cell radio batteries including types "A," "B," "C," or "A-B." Further information may be obtained from the manufacturer at the above address.

New Dates!
NFPA Annual Meeting
Chicago, Illinois
May 18-22, 1953



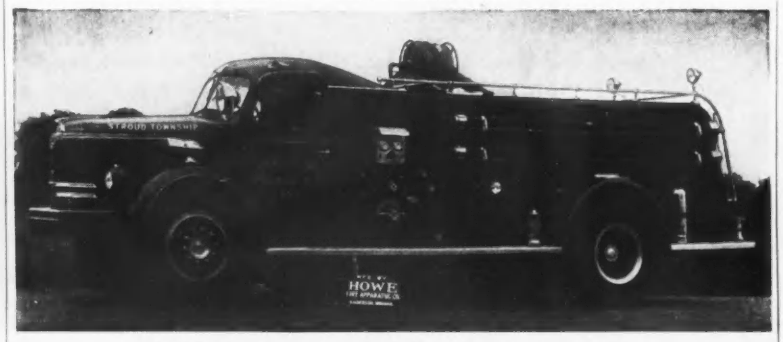
Emergency Power System

A new line of automatic emergency power systems using nickel cadmium batteries is being featured by the Electric Cord Company, 195 William Street, New York 38, New York. Manufacturer claims that the units, named "Light Warden," and unconditionally guaranteed for 10 years, should give 20 to 30 years of useful life. The units measure 42 in. high, 26 in. wide, and 14 in. deep, and will be available in capacities of 6, 12, 24, 32 and 110 volts with ampere capacity to meet specific requirements.



Automatic Battery Charger

An automatic battery charger is being produced by LaMarche Manufacturing Company, Wakefield, Rhode Island. Named the "Auto-charjer" the unit can supply a charge to batteries from zero to full capacity without requiring adjustment. According to the manufacturer correct installation requires one "Auto-charjer" per vehicle whether the vehicle has one or two batteries. A safety feature allows protection from shock while batteries in the vehicle are being charged. Further information and descriptive literature may be obtained from the manufacturer at the above address.



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Due to a tremendous demand from fire fighters and other members of the fire service the NFPA has published this important new manual on the care, use and operation of fire department pumpers. During recent years there have been more requests for this material than for any other subject pertaining to fire training. Now this long awaited publication, edited by Warren Y. Kimball, Manager, NFPA Fire Services Department, is being prepared for distribution.

Some of the contents were published serially in FIREMEN during 1950 and 1951. This series, under the same title as the manual, was prepared by a sub-committee of the NFPA Committee on Firemen's training, and has been supplemented by many other important articles, including excerpts from the popular "Making a Good Job of It" series by the Editor.

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